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8. ABSTRACT

Most states, including Iowa, have a significant number of substandard bridges. This number will increase significantly unless some type of preventative maintenance is employed. Both the Iowa Department of Transportation and Iowa counties in the state of Iowa have successfully employed numerous maintenance, repair and rehabilitation (MR&R) strategies for correcting various types of deficiencies. However, successfully employed MR&R procedures are often not systematically documented or defined for those involved in bridge maintenance. This study addressed the need for a standard bridge maintenance, repair and rehabilitation (MR&R) manual for Iowa with emphasis for secondary road applications. As part of the study, bridge MR&R activities that are relevant to the state of Iowa have been systematically categorized into a manual, in a standardized format. Where pertinent, design guidelines have been presented.

Material presented in this manual is divided into two major categories: 1) Repair and Rehabilitation of Bridge Superstructure Components, and 2) Repair and Rehabilitation of Bridge Substructure Components. There are multiple subcategories within both major categories that provide detailed information. Some of the detailed information includes step-by-step procedures for accomplishing MR&R activities, material specifications and detailed drawings where available. The source of information contained in the manual came from public domain technical literature and from information provided by Iowa County Engineers. A questionnaire was sent to all 99 counties in Iowa to solicit information and the research team personally solicited input from many Iowa counties as a follow up to the questionnaire.

9. KEY WORDS